

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG ELECTRIC LOGS FILE **X** WATER SANDS LOCATION INSPECTED **OIL** SUB. REPORT/abd.

DATE FILED **9-27-82**

LAND: FEE & PATENTED

STATE LEASE NO.

PUBLIC LEASE NO.

INDIAN **14-20-603-370**

DRILLING APPROVED: **(9027\*02)**

SPUDDED IN:

COMPLETED:

PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED: **2.3.84**

FIELD: **GREATER ANETH**

*LA application rescinded 3/86*

UNIT:

COUNTY: **SAN JUAN**

WELL NO. **MCCELMO CREEK #1-22**

API NO. **43-037-30818**

LOCATION **3304**

FT. FROM (W) (S) LINE.

**729**

FT. FROM (E) (W) LINE.

**SE NE**

1/4 - 1/4 SEC.

**13**

TWP

RGE

SEC

OPERATOR

TWP

RGE

SEC

OPERATOR

**41S**

**24E**

**13**

**SUPERIO OIL COMPANY**

**SUPERIOR OIL**

September 9, 1982

Mr. Mike Minder  
Petroleum Engineer  
Division of Oil, Gas & Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

Re: McElmo Creek Unit #I-22  
Proposed Infill Development Well  
Section 13, T41S, R24E, SLM  
San Juan County, Utah

Dear Mr. Minder:

Attached is Superior Oil's "Application for Permit to Drill" for the above captioned well. This well is staked on a 40 acre spacing to recover oil bypassed in the original flood pattern and will be drilled through the Leadville and McCracken formations for CO2/Hydrocarbon tests. Superior Oil is the designated operator of McElmo Creek Unit in San Juan County, Utah.

Sincerely,

SUPERIOR OIL COMPANY

*Charles L. Hill*

Charles L. Hill  
Area Production Superintendent

TGM/dt

RECEIVED  
SEP 24 1982

DIVISION OF  
OIL, GAS & MINING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐OTHER CO<sub>2</sub>SINGLE  
ZONE ☐MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

SUPERIOR OIL COMPANY

## 3. ADDRESS OF OPERATOR

P.O. DRAWER 'G', CORTEZ, COLORADO 81321

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface  
3304' FSL, 729' FEL of Section 13

At proposed prod. zone

same

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

2.3 Miles Northwest of Aneth Utah

## 10. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any) 625'

## 18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT. 1200'

## 16. NO. OF ACRES IN LEASE

1120'

## 19. PROPOSED DEPTH

7500'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

## 20. ROTARY OR CABLE TOOLS

ROTARY

## 21. ELEVATIONS (Show whether DF, RT, GR, etc.)

4454' Ungraded ground level

## 22. APPROX. DATE WORK WILL START\*

October 15, 1982

## 23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	16"	65#	80'	Redi-Mix to surface
12-1/4"	9-5/8"	36#	2200'	To surface
8-3/4"	7"	23#	6750'	450 sx, "B"
6"	4-1/2"	11.6#	7500'	100 sx, "B"

1. Drill 17-1/2 Hole to 80'. Run 80' of 16" conductor casing and cement to surface with Redi-Mix.
2. Drill 12-1/4" hole to 2200'. Run 2200' of 9-5/8" surface casing and cement to surface with class 'B' cement.
3. Drill 8-3/4" hole to 5450'. Run GR-DIL from 5450'-2250' and FDC CNL-GR from 5450-3500'.
4. Drill 8-3/4" hole to 6750'. Run 6750' of 7" casing and cement with 450 sx. of class 'B' cement.
5. Drill 6" hole to 7500'. Run GR-DIL, FDC-CNL-GR, Acoustic Log Formation Multi-Tester-GR from 7500'-6750'. Run 1150' of 4-1/2" liner and set at 7500'. Cement with 100 sx. Class 'B' cement.

(On Back)

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

James S. Ondus  
T. GREG MERRION

TITLE

PETROLEUM ENGINEER

DATE

August 30, 1982

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE

9-27-82

BY

## Instructions

**General:** This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

**Item 1:** If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

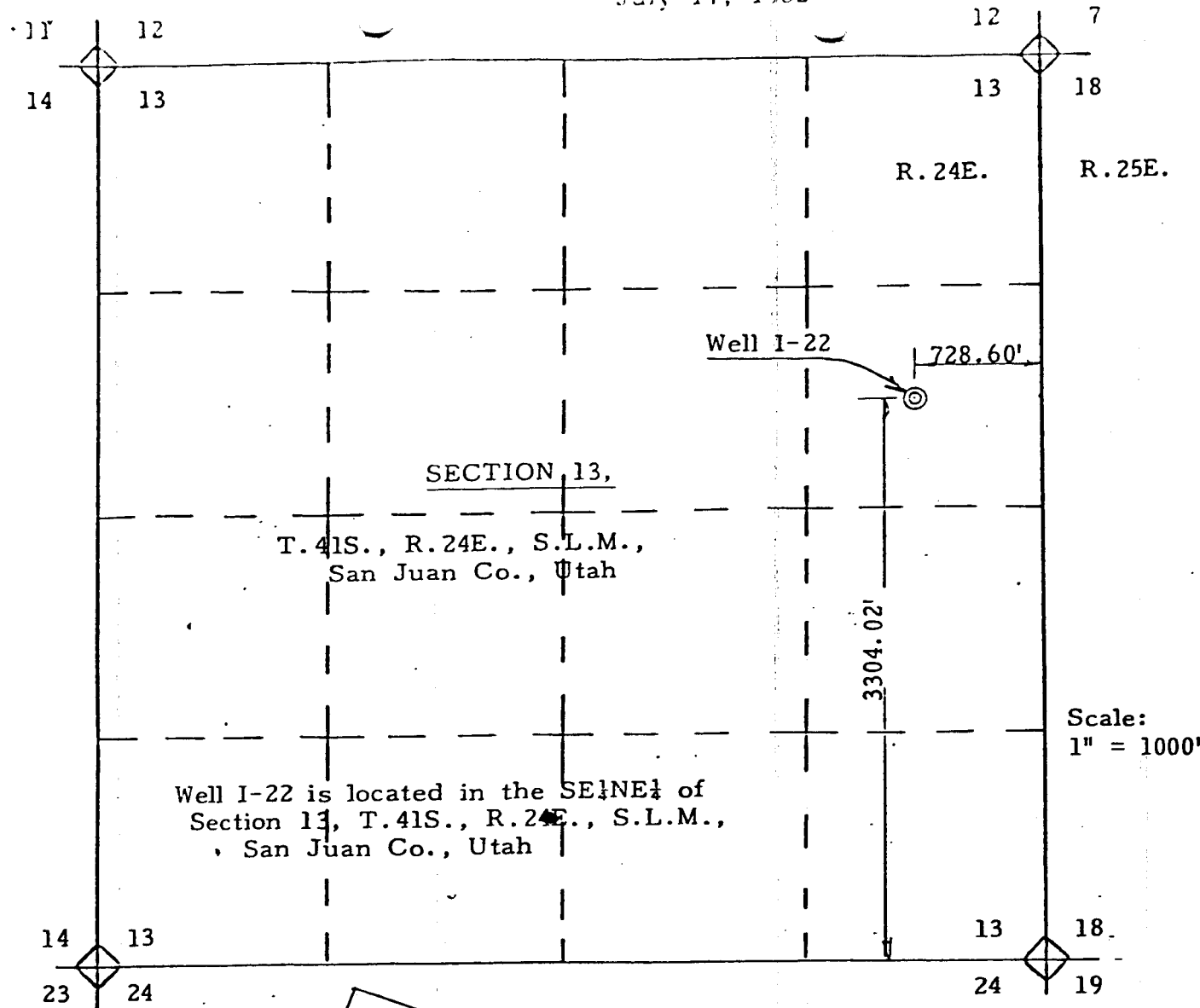
**Item 14:** Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

**Items 15 and 18:** If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

**Item 22:** Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1963-O-711-396

6. Based on log evaluation, this well may be completed in the McCracken formation (Hydrocarbons), or the Leadville (CO<sub>2</sub> and Hydrocarbons), or in the Desert Creek (Hydrocarbons), or the Ismay (Hydrocarbons).



Well I-22 is located in the SE 1/4 of  
Section 13, T.41S., R.24E., S.L.M.,  
San Juan Co., Utah

Scale:  
1" = 1000'

Travel road 500' to west-  
Access road 0%

Ref. elev. @200' =  
4453.67

Laydown  
N. 69° 32' 22" W.

Well I-22  
Elev. 4454.01-ungraded ground

Vegetation: Tamarisk willows and  
cottonwoods.  
Soil: Sand-river bottom.

Estimated excavation: 5500 C.Y.

Horizontal scale: 1" = 100'  
Vertical scale: 1" = 50'

S. 69° 32' 22" E  
200'

Ref. elev. 4453.66

Reserve  
pits

4460  
4450

Pad elev. 4455

Well

Reserve elev. 4445

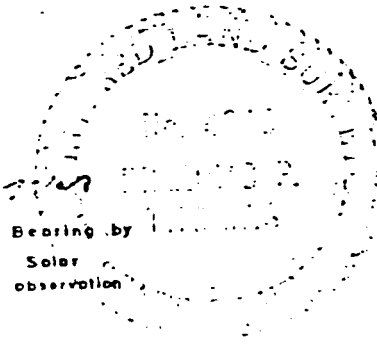
SECTION A-A

N

KNOW ALL MEN BY THESE PRESENTS:  
THAT I, FREDRIC P. THOMAS  
do hereby certify that I prepared this plat from an  
actual and accurate survey of the land and that the  
same is true and correct to the best of my knowledge  
and belief.

*Fredric P. Thomas*  
FREDRIC P. THOMAS  
Reg. L.S. and P.E.  
Colo. Reg. No. 6728

Utah reg. no. 4346



Bearing by  
Solar  
observation

THOMAS Engineering Inc.

215 N. Linden  
Cortez, Colorado  
365-4496

SUPPLEMENTAL TO FORM 9-331-C

WELL: McElmo Creek Unit #1-22

ELEVATION: 4454' Ungraded Ground Level

SURFACE FORMATION: Dakota

ESTIMATED FORMATION TOPS: (Measured from KB level at 4462')

Chinle	1100'
Shinarump	1900'
Moenkopi	2000'
DeChelly	2100'
Organ Rock	2200'
Cedar Mesa	2800'
Hermosa	3900'
Ismay	5100'
Lower Ismay	5150'
Desert Creek	5200'
Chimney Rock	5400'
Akah Salt	5450'
Molas	6500'
Leadville	6650'
Ouray	6800'
Elbert Shale	6900'
McCracken	7200'
TD	7500'

WATER BEARING FORMATION: Water is expected to be encountered intermittently from the surface down to the Chinle.

HYDROCARBON BEARING FORMATION: Oil and gas could be encountered in the Ismay, Desert Creek, Leadville, and McCracken.

CARBON DIOXIDE BEARING FORMATION: Carbon dioxide could be encountered in the Leadville.

MUD PROGRAM:

Surface to 2300' - 8.5 - 8.8 ppg. Gel/lime mud system.

2300' to 3450' - 8.5 ppg. water/Gel mud system

3450' to 5450' - 9.0 -9.5 ppg. lignite/caustic mud system.

5450' to 6700' - 9.6 to 10.2 ppg. saturated saltwater mud system.

6700' to 7500' - 8.4 ppg. water/gel mud system.

(2)

CASING PROGRAM:

Conductor - 16", 65# new casing set to 80'.  
Surface - 9-5/8", 36# new casing set to 2200'.  
Production - 7", 23# new casing set to 6750'.  
Liner - 4-1/2", 11.6# new liner set from  
6350' to 7500'.

CEMENT PROGRAM:

Conductor - cement to surface with Redi-mix.  
Surface - cement to surface with Lite.  
Production - cement with 450 sx class 'B'.  
Liner - cement with 100 sx class 'B'.

LOGGING PROGRAM:

5450' - 2250': GR-DIL  
5450' - 3500': FDC-CNL-GR  
7500' - 6650': GR-DIL, FDC-CNL-GR, Acoustic  
Log, Formation Multi-Tester-GR

DRILL STEM TESTS:

None anticipated at this time.

CORING:

Leadville.

PRESSURE CONTROLS:

Blowout preventer equipment will be 10" Series 600 with blind rams and drill pipe rams hydraulically and manually controlled. The blind rams will be tested daily. The schematic of the pressure control equipment can be seen on the attached diagram. The mud system will be monitored by visual inspection.

POSSIBLE HAZARDS:

Hydrogen Sulfide may be encountered below the Desert Creek to TD.

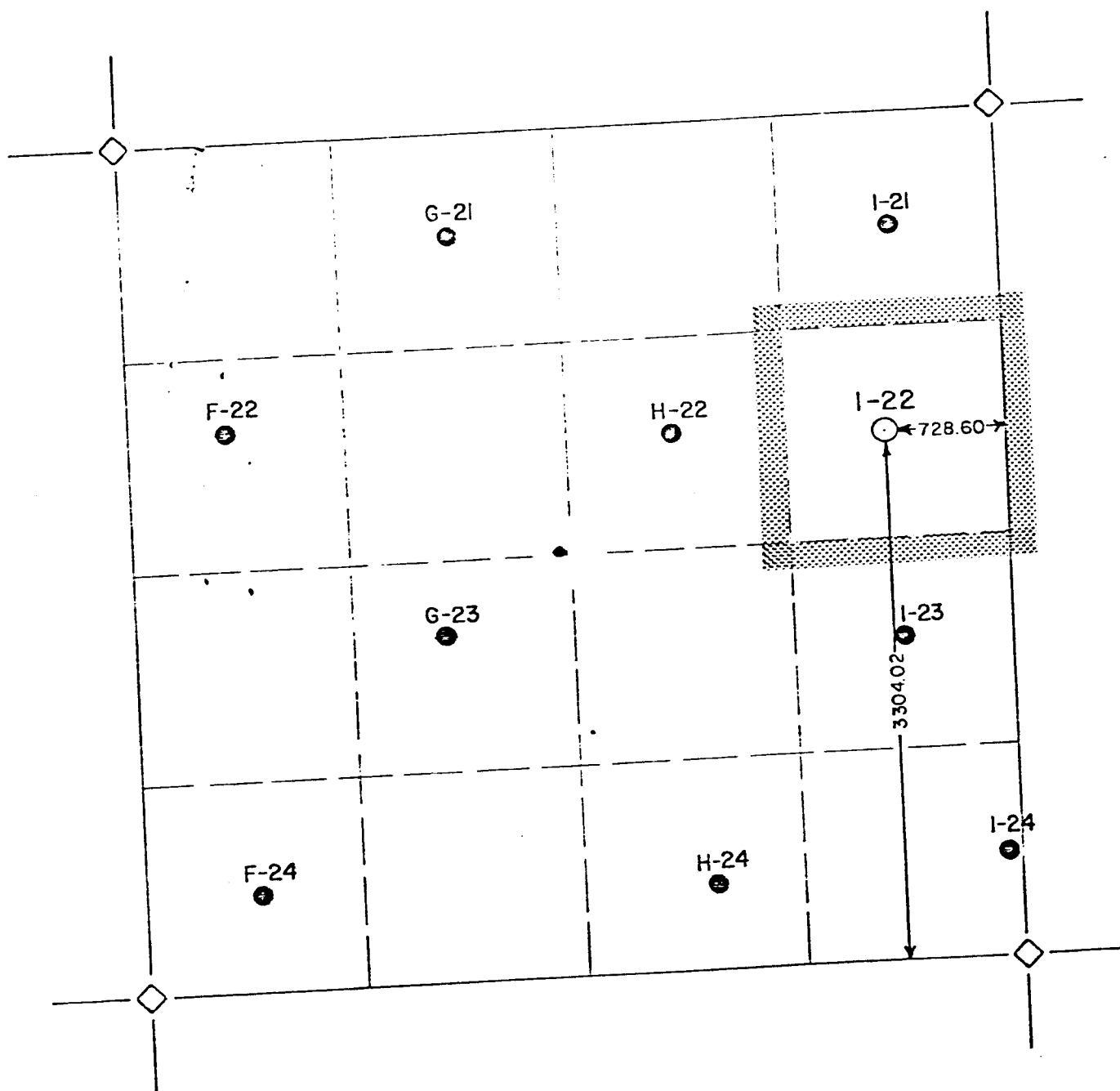
ANTICIPATED STARTING DATE:

October 15, 1982.

JSA/dt

# THE SUPERIOR OIL CO.

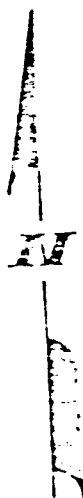
OPERATOR  
Well No. MCU 1-22



McElmo Creek Unit  
SE/NE SECTION 13, T.41 S. - R.24 E.



*Charles L. Hill*  
9/20/82



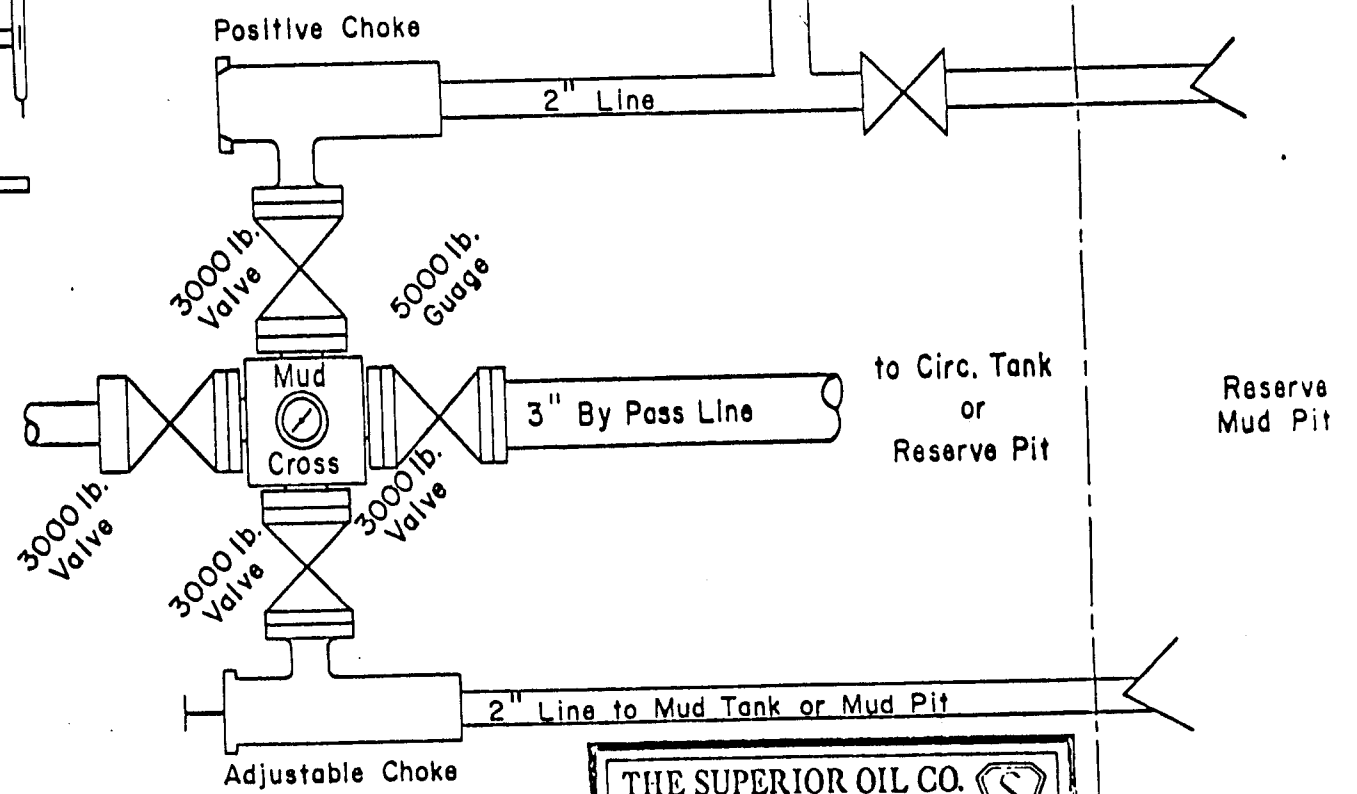
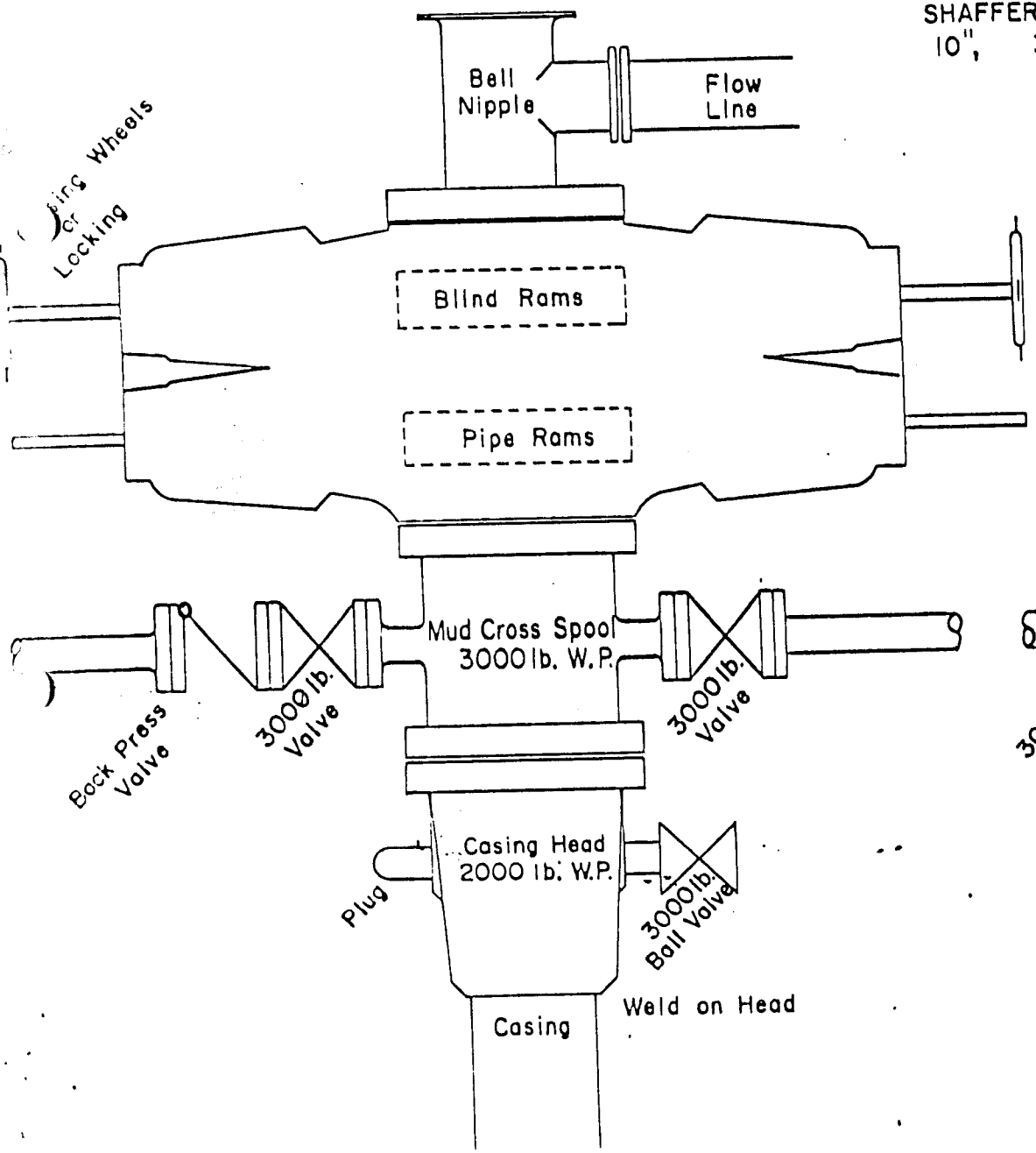
Scale: 1" = 1000'


- Location
- ⊙ Well
- ⊕ Injector

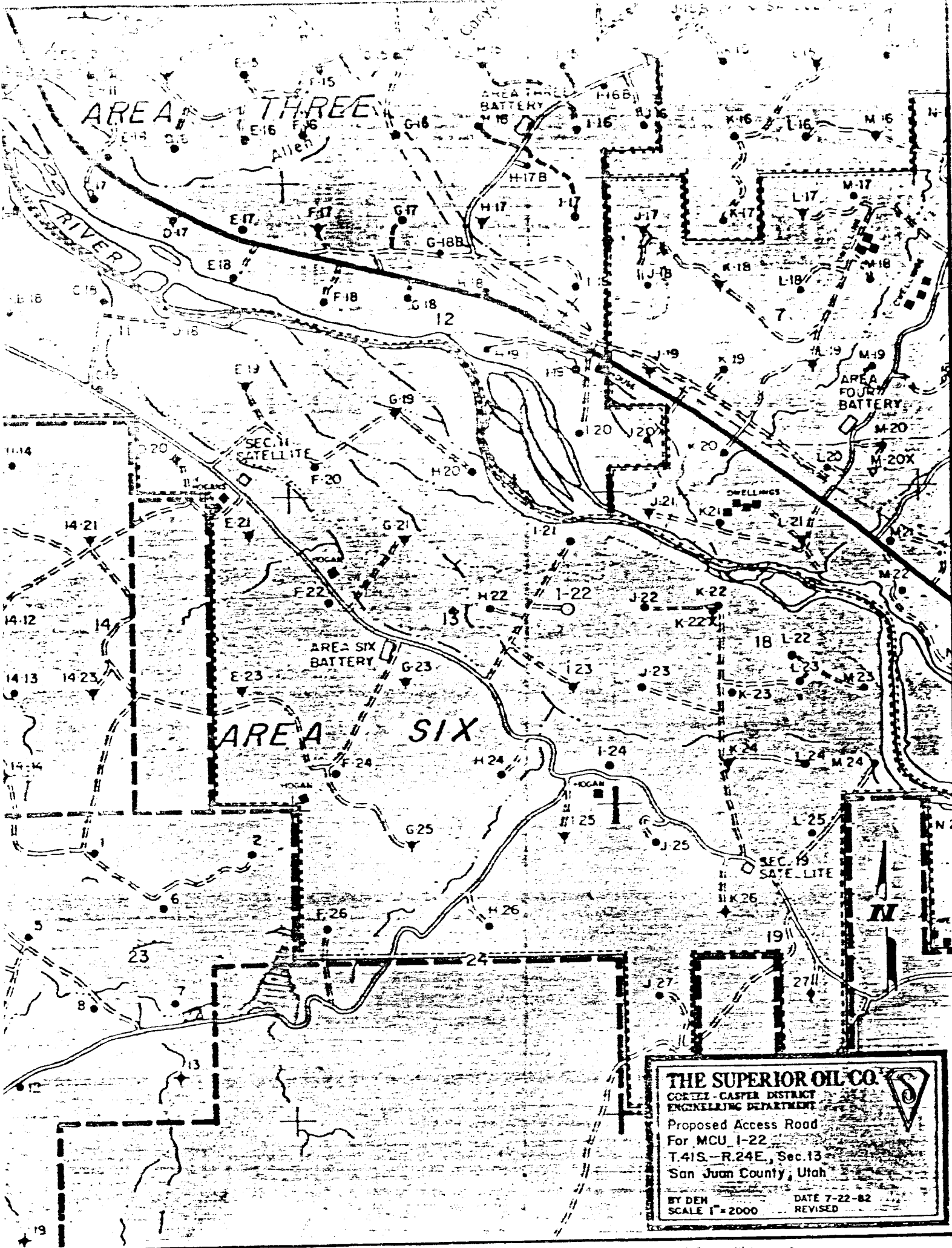


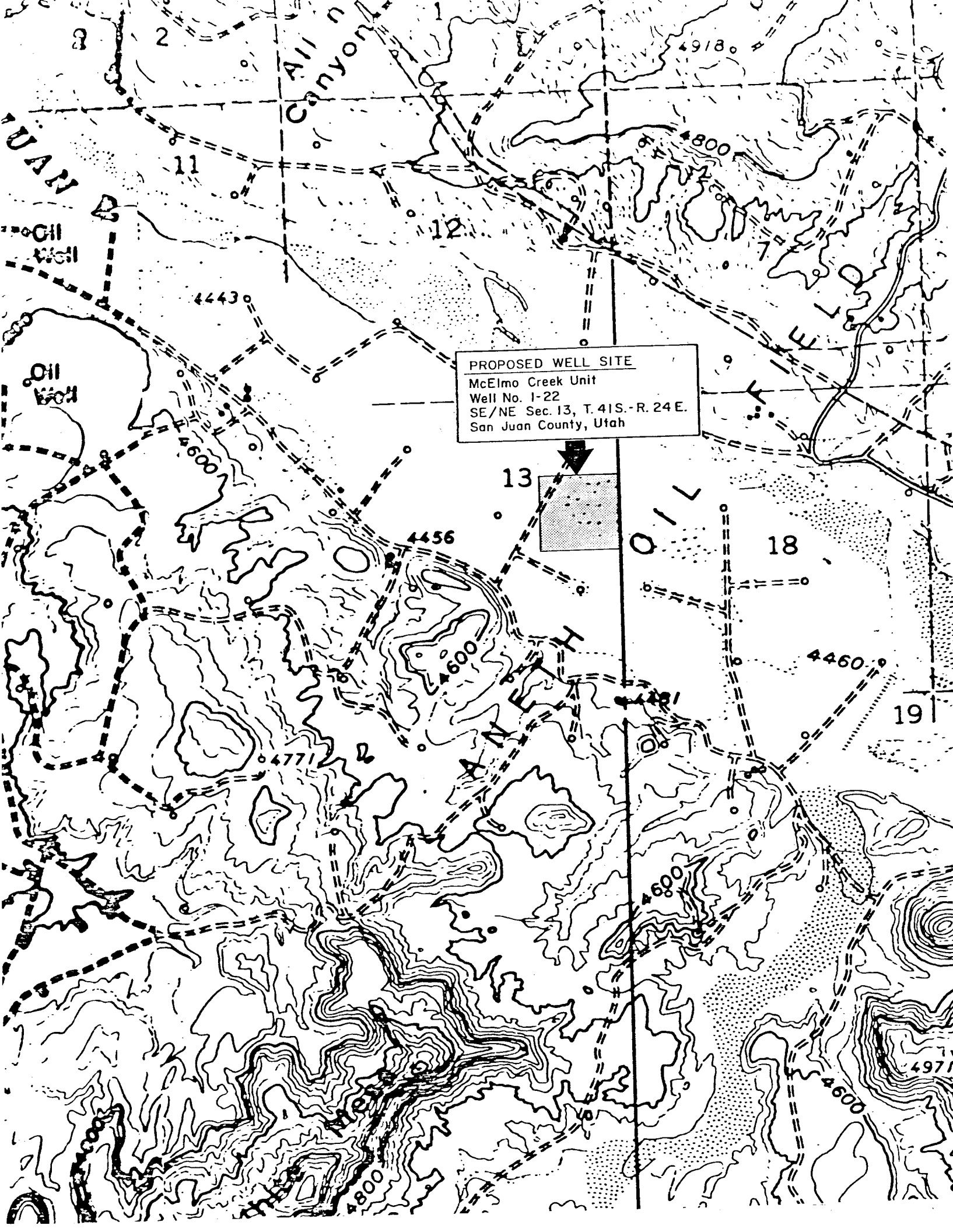
Circulating Tank

SHAFFER DOUBLE GATE BLOW OUT PREVENTER  
10", 3000 lb. W.P., 6000 lb. Test, Type E



THE SUPERIOR OIL CO.   
CORTEZ - CASPER DISTRICT  
ENGINEERING DEPARTMENT  
SCHEMATIC DIAGRAM  
OF PRESSURE CONTROL  
EQUIPMENT  
BY JEG  
SCALE NONE  
DATE 6/26/79  
REVISED





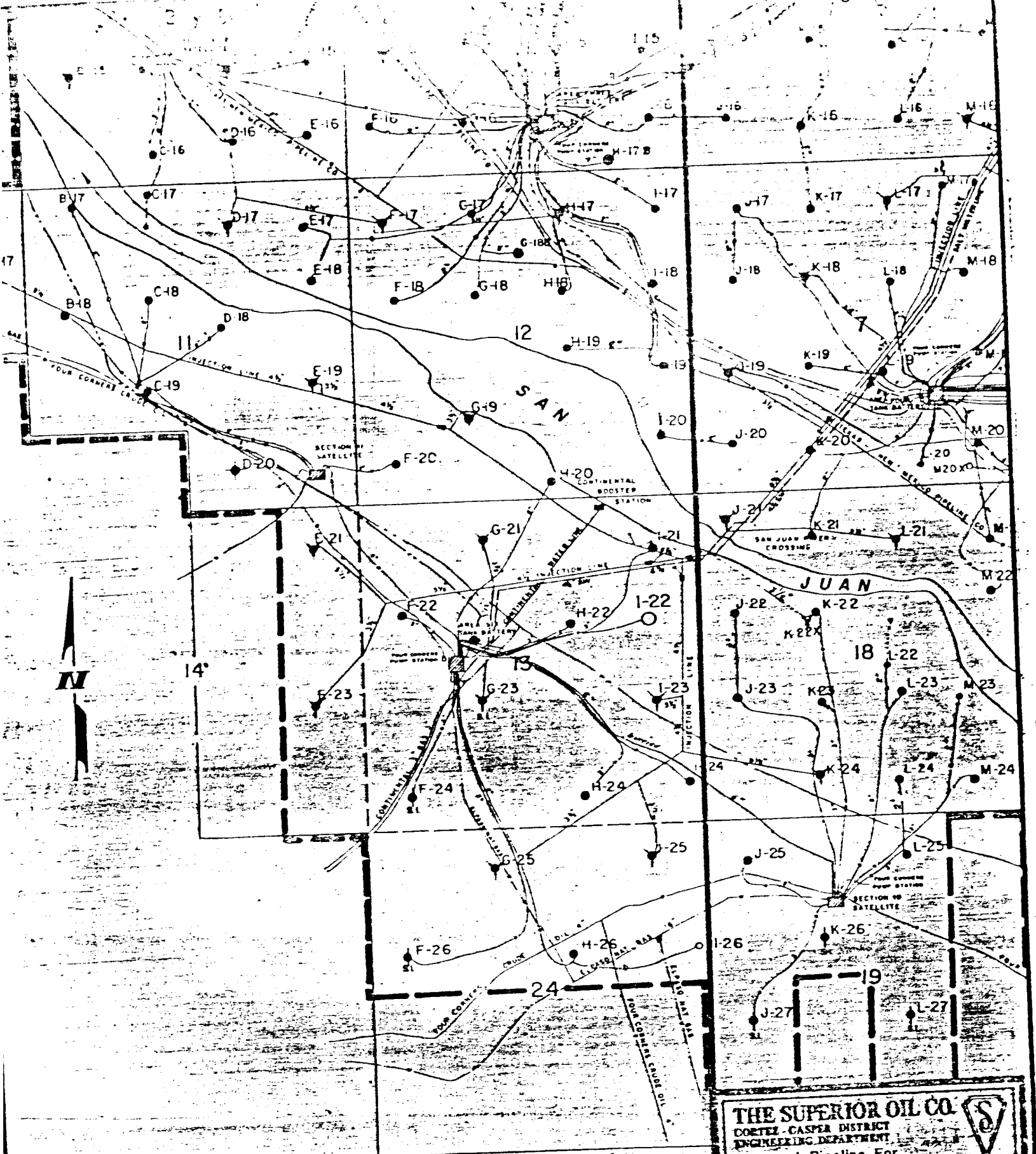
PROPOSED WELL SITE

McElmo Creek Unit

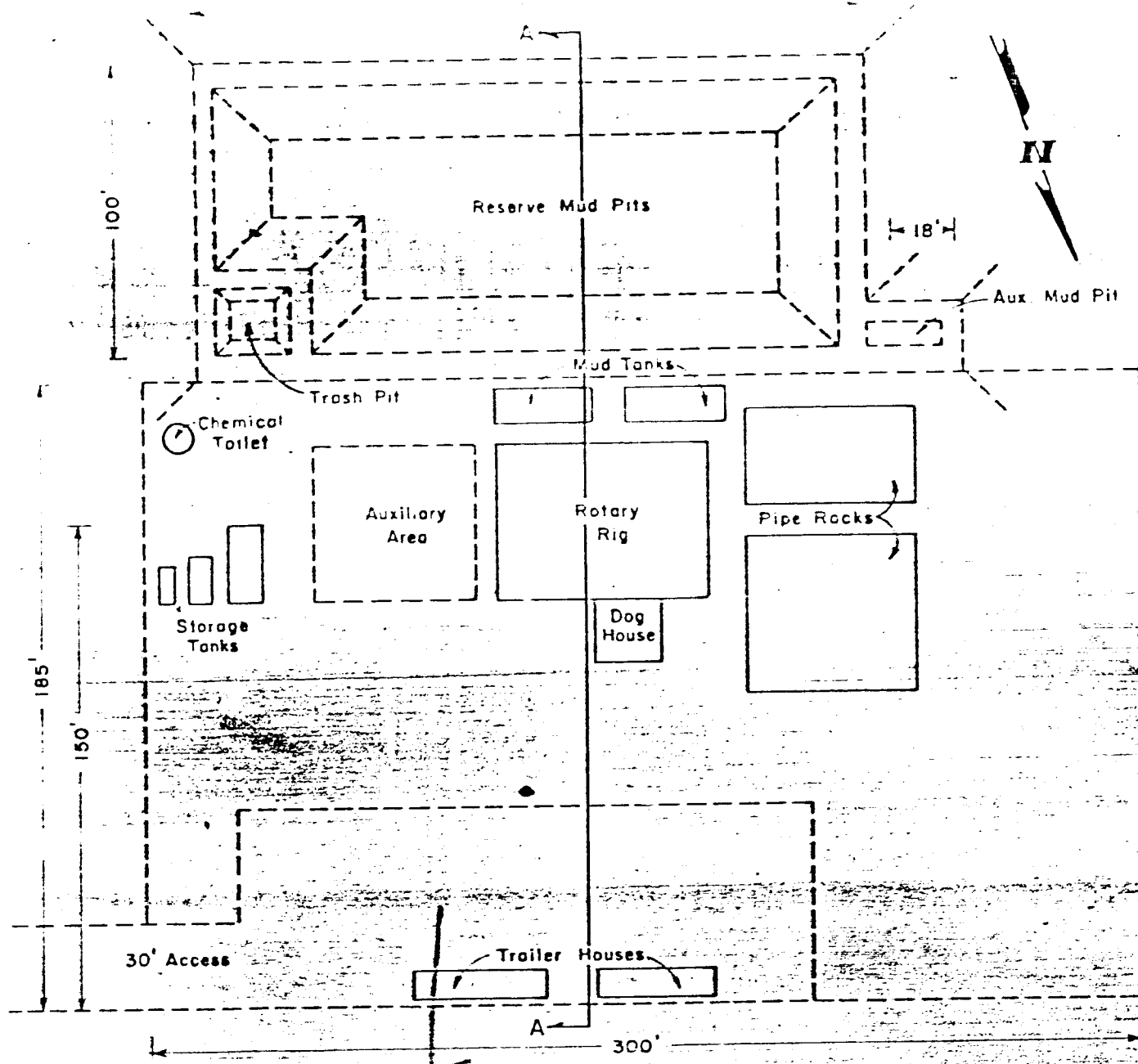
Well No. 1-22

SE/NE Sec. 13, T. 41S. - R. 24 E.

San Juan County, Utah



**THE SUPERIOR OIL CO.**  
 CORTEZ-CASPER DISTRICT  
 ENGINEERING DEPARTMENT  
 Proposed Pipeline For  
 MCU 1-22  
 T.415 - R.24E, Sec.13  
 San Juan County, Utah  
 BY DEN SCALE 1" = 2000' DATE 7-22-82  
 REVISED



The Drilling Pad will be graded and compacted, and composed of native materials.

Proposed Well Site  
MCU I-22  
Original Elev. 4454'

Cellar Reserve Mud Pit

Original Contour  
Reference Point  
Graded Proposal

THE SUPERIOR OIL CO.  
CORTEZ CASPER DISTRICT  
ENGINEERING DEPARTMENT  
RIG LAYOUT & DRILL  
PAD CROSS SECTION  
McELMO CREEK UNIT  
WELL No. I-22

BY JEG DATE 7-22-82  
SCALE 1" = 80' REVISED DEH

# **SUPERIOR OIL**

August 18, 1982

Mr. James Sims  
District Engineer  
Minerals Management Service  
P.O. Box 600  
Farmington, New Mexico 87401

Re: Surface Use & Operations Plan  
McElmo Creek Unit #1-22  
3304' FSL, 729' FEL  
Section 13, T41S, R24E, SLM  
San Juan County, Utah

Dear Mr. Sims:

The "Surface Use & Operations Plan" (as per NTL-6 requirements) for the proposed McElmo Creek Unit #1-22 is as follows:

1. The existing roads are shown on the "Proposed Access Road" plat.
2. A new 500' X 20' access road will be required as shown on the attached plat. The proposed road will run east from an existing road to the new location. The new road will consist of compacted sand and gravel with a 0% grade. The road will be elevated 1.5' above grade with 1' of sand and .5' of gravel on top.
3. The location and status of wells in the vicinity are shown on the attached road and pipeline plats.
4. The location of production facilities and flowlines in the vicinity are shown on the attached "Proposed Pipeline" plat. If carbon dioxide is encountered, the subject well will be tested to determine its productivity and then shut-in for further study. If hydrocarbons are encountered, a 2" flowline will run 3400' west to Superior's existing Area Six Tank Battery where the oil, gas and water will be separated.
5. Water for drilling operations will be trucked on existing roads and the aforementioned access road. The water will be obtained from Superior's fresh water wells near the San Juan River.

## **SUPERIOR OIL**

6. Materials necessary for the construction of the access road and drilling pad will be obtained from the location. No access road for the purpose of hauling materials will be necessary.
7. Waste materials will be collected in lined earth pits 6'-8' deep with steep sides. The perimeter of these pits will be fenced with small mesh wire. When drilling operations are complete these earth pits will be backfilled and leveled to the contour of the original landscape. Small portable trailer houses for the company and contract personnel may be on the location. A sufficient number of OSHA approved chemical toilets will be provided and maintained.
8. No ancillary facilities will be constructed.
9. The location of drilling equipment is shown on the attached plat. The position of drilling equipment and a cross section diagram showing cuts and fills that are necessary for drilling pad construction are shown on another attached plat. The drilling pad will be located at approximately 1.5' above ground level consisting of 1' of sand and .5' of gravel on top. The drilling pad will be constructed with a catch basin around the perimeter.
10. Upon completion of operations, the site will be restored according to BIA requirements.
11. Surface land is owned by the Navajo Tribe and is used primarily for grazing. Soil in the area is sand. The only vegetation is tamarisk and scattered cottonwoods. There are no Indian habitations or artifacts in the immediate vicinity of the access road, flowline, or drillsite.

Very truly yours,

SUPERIOR OIL COMPANY

*for James S. Andres*  
T. Greg Merrion  
Petroleum Engineer

TGM/dt

# **SUPERIOR OIL**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by the SUPERIOR OIL COMPANY and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

9/20/82  
Date

Charles L. Hill  
Charles L. Hill  
Area Production Superintendent

TGM/dt



## HYDROGEN SULFIDE CONTINGENCY PLAN

SUPERIOR OIL COMPANY McElmo Creek Unit No. I-22  
San Juan County, Utah  
September 13, 1982

### SCOPE

This plan covers SUPERIOR OIL, McElmo Creek Unit I-22 San Juan County, Utah; including all employees and contractor employees on the jobsite.

### PLAN DEVELOPMENT

#### A. PURPOSE

To establish Safety procedures so as to provide a coordinated response by SUPERIOR OIL, public safety and emergency personnel to alert and protect the public within the area of exposure in the event of accidental discharge of a potentially hazardous volume of Hydrogen Sulfide to the Atmosphere.

#### B. CONDITIONS

McElmo Creek Unit I-22 is located in San Juan County, Utah T41S, R24E, SLM in Section 13. Hydrogen Sulfide could be present at a depth of 5400' to 7500'. The Hydrogen Sulfide Contingency Plan shall be implemented before drilling into Chimney Rock Zone at 5400'.

### DIRECTIONS TO LOCATION

Go Southwest from Cortez, Colorado on Highway 160 for 33 miles. Turn Northwest on Highway 41 for 10 miles to Utah State Line. Continue on Highway 262 for 17 miles to Montezuma Creek. Turn left on County road 409, cross the river and turn East on County Road 406 for 1-1/2 miles. Turn left on County Road 457 and go 5.5 miles to McElmo Creek Unit No. I-22.

## H2S CONTINGENCY PLAN

DATE: September 13, 1982

WELL NAME: McElmo Creek Unit #I-22 T.D. 7500'

LOCATION: 3304' FSL, 729' FEL of Section 13

FIELD NAME: Aneth

H2S FORMATION: Possible H2S formations below Desert Creek DEPTH: 5400'

**CONTRACTOR:**

RIG NUMBER: \_\_\_\_\_ RIG PHONE: \_\_\_\_\_

DRILLING SUPERINTENDENTS:

MOBILE PHONE: \_\_\_\_\_ HOME PHONE: \_\_\_\_\_

MOBILE PHONE: \_\_\_\_\_ HOME PHONE: \_\_\_\_\_

OPERATIONS SUPERINTENDENT:

Charles L. Hill      OFFICE PHONE: (303) 565-3733 HOME PHONE: (303) 565-3635

DRILLING ENGINEER:

OFFICE PHONE: \_\_\_\_\_ HOME PHONE: \_\_\_\_\_

**GEOLOGIST:**

OFFICE PHONE: \_\_\_\_\_ HOME PHONE: \_\_\_\_\_

- I. Introduction. H<sub>2</sub>S is a toxic, poisonous gas that could cause death or injury. The objective of this contingency plan is to provide an organized plan of action for alerting and protecting the public from H<sub>2</sub>S exposure in the event a potentially hazardous volume is accidentally released to the atmosphere. This plan should be activated immediately if any such release occurs. The Drilling Superintendent is responsible for initiating and carrying out the plan.
- II. Individual Responsibilities. It is the responsibility of all personnel on the location to familiarize themselves with the procedures outlined in this contingency plan.
  - A. All personnel:
    1. Responsible for his assigned safety equipment.
    2. Responsible for familiarizing himself with the location of all safety equipment.
    3. Responsible for reporting any indications of H<sub>2</sub>S to those in the area and to a supervisor.
  - B. Drilling Superintendent:
    1. Responsible for thoroughly understanding and seeing that all aspects of this contingency plan are enforced.
    2. Responsible for implementing all phases of this contingency plan.
    3. Responsible for keeping a minimum of personnel on the location during expected hazardous operations.
    4. Responsible for coordinating all wellsite operations and communications in the event that an emergency condition develops.
    5. Responsible for ensuring that all visitors receive an H<sub>2</sub>S safety orientation. A visitor's log will be maintained as well as a list of all personnel on the location after drilling has progressed to the suspected H<sub>2</sub>S formation.
    6. Responsible for notifying the drilling office, public safety personnel, regulatory agencies, and the general public of the existence and location of an H<sub>2</sub>S release.
- III. Location Layout.
  - A. The location of at least two pre-determined safe areas to assemble at in the event of an emergency. These locations should be located 180 degrees to one another, and in the direction of the prevailing winds.

The pre-determined safe areas for this well are:

Area #1: \_\_\_\_\_

Area #2: \_\_\_\_\_

- B. The location and type of all H2S detectors. One located at the bell nipple, one located at the shale shaker, and a third one on the rig floor. Indicate here any other additional H2S detector locations for this well:

TYPE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- C. The location and type of all air masks. Self-contained breathing apparatus for use by rig personnel for this well will be kept in the following locations:

TYPE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

If a cascade system is utilized, indicate the location(s):

TYPE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- D. The location of wind socks or streamers. The wind direction indicators for this well will be located at:

TYPE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

\_\_\_\_\_

- E. The location of any other safety equipment used, such as flare guns or bug blowers:

TYPE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

\_\_\_\_\_

- F. The location of all telephones and/or means of communications. The communications for this well will be located at:

TYPE: \_\_\_\_\_ LOCATION: \_\_\_\_\_

\_\_\_\_\_

G. Warning Signs

1. "NO SMOKING" signs should be strategically located around the rig and rig location. The following locations are appropriate.
  - a. Doghouse.
  - b. Rig floor.
  - c. Substructure.
  - d. Lower landing of all stairs leading to rig floor.
  - e. Mud pits.
  - f. Shale shaker.
2. "POISON GAS" signs should also be placed at strategic points on the location. The following locations are appropriate.
  - a. All entrances leading to the location.
  - b. Lower landing of all stairs leading to rig floor.
  - c. All areas around substructure, including mud pits and shale shaker.
  - d. Various points along the perimeter of the radius of exposure.

NOTE: All warning signs should be black and yellow in color and of readable size at a reasonable distance.

IV. Operating Procedures. The following operating procedures will be utilized for drilling in areas with H<sub>2</sub>S.

- A. Plan of operation for handling gas kicks and other drilling problems. Any gas kick will be controlled by using approved well control techniques. Upon evidence that ambient H<sub>2</sub>S concentrations have reached 20 ppm, all non-essential personnel will be evacuated to pre-designated safe areas. Personnel remaining on the rig floor will continue to control the well as the situation dictates until the area is safe to re-enter.
- B. Proposed mud program.

DEPTH INTERVAL (Ft)	TYPE	WEIGHT (ppg)	FUNNEL VISC. (Sec/Qt)	MEAS. @ 120 deg F		SOLIDS (%)	pH	Cl- (ppm)
				PV (cp)	YP (lb/100'2)			
0-2300'		8.5-8.8						
2300-3450'		8.5						
3450-5450'		9.0-9.5						
5450-6700'		9.6-10.2						
6700-7500'		8.4						

Note: If necessary, approved H<sub>2</sub>S scavengers may be used.

C. Special Operations.

1. Drill Stem Tests. All drill stem tests must be closed chamber and conducted during daylight hours.
2. Coring. After a core has been cut, circulate bottoms up and monitor for H<sub>2</sub>S. If hole conditions (and/or detectors) indicate potentially hazardous conditions, put breathing equipment on 10 stands before core barrel reaches the surface. Breathing equipment will be worn by all personnel while core barrel is pulled, broken out, and opened up, and until a safe atmosphere is indicated.

V. Operating Conditions. Operating conditions are defined in three categories. A description of each of these conditions and the required action to take are given below.

A. CONDITION I - NORMAL OPERATING CONDITIONS, POTENTIAL DANGER, OPERATIONS UNDER CONTROL

Characterized by: Normal drilling operations and test operations in zones which contain or may contain H<sub>2</sub>S.

Warning flag: Yellow.

Alarm: None.

Probable occurrence: No detectable gas present at surface.

- General action:
- (1) Know location of safety equipment.
  - (2) Check safety equipment for proper functioning. Keep it available.
  - (3) Be alert for condition change.
  - (4) Follow instructions of supervisor.

B. CONDITION II - POTENTIAL TO MODERATE DANGER TO LIFE

Characterized by: H<sub>2</sub>S gas present. Concentrations less than 20 ppm.

Warning flag: Orange.

Alarm: Flashing light at 10 ppm H<sub>2</sub>S.

Probable occurrence:

- (1) Drill gas.
- (2) Trip gas when circulating bottoms up.
- (3) When a core barrel is pulled.

- (4) When a well kick is circulated out.
- (5) Surface pressure, well flow or lost returns problems.
- (6) Equipment failure during testing operations.

General action:

- (1) Follow instructions of supervisor.
- (2) Put on breathing equipment if directed, or if conditions warrant it.
- (3) Stay in "SAFE BRIEFING AREA" if instructed and not working to correct the problem.
- (4) The Drilling Superintendent will initiate action to reduce the H<sub>2</sub>S concentration to zero.

C. CONDITION III - MODERATE TO EXTREME DANGER TO LIFE

Characterized by: H<sub>2</sub>S present in concentrations at or above 20 ppm. Critical well operations or well control problems. In the extreme, loss of well control.

Warning flag: Red.

Alarm: Flashing light and continuous blast on horn at 20 ppm H<sub>2</sub>S.

Probable occurrence:

- (1) Drill gas.
- (2) Trip gas when circulating bottoms up.
- (3) When a core barrel is pulled.
- (4) When a well kick is circulated out.
- (5) Surface pressure, well flow or lost returns problems.
- (6) Equipment failure during testing operations.

General action:

- (1) Put on breathing equipment. Move to "SAFE BRIEFING AREA" and remain there if not working to correct or control problems.
- (2) Follow instructions of Drilling Superintendent or other supervisor.

- (3) The Drilling Superintendent will initiate emergency action as provided in the contingency plan and as appropriate to the actual conditions. If testing operations are in progress, well will be shut-in.
- (4) The Drilling Superintendent will conduct any necessary operations with an absolute minimum of personnel. All persons in the immediate area will wear a breathing apparatus. All other personnel will restrict their movements to those directed by the Superintendent.

NOTE: If gas containing hydrogen sulfide is ignited, the burning hydrogen sulfide will be converted to sulfur dioxide which is poisonous.

VI. Emergency Procedures. The procedures listed below apply to drilling and testing operations.

A. If at any time during Condition I, the mud logger, mud engineer or any other person detects H<sub>2</sub>S, he will notify the Drilling Superintendent. All personnel should keep alert to the Drilling Superintendent's orders. He will:

1. Immediately begin to ascertain the cause or the source of the H<sub>2</sub>S and take steps to reduce the H<sub>2</sub>S concentration to zero. This should include having the mud engineer run a sulfide and pH determination on the flowline mud if water-base mud is in use. If an oil-base mud is in use, the mud engineer should check the lime content of the mud.
2. Order non-essential personnel out of the potential danger area.
3. Order all personnel to check their safety equipment to see that it is working properly and in the proper location. Persons without breathing equipment will not be allowed to work in a hazard area.
4. Notify the H<sub>2</sub>S Contract Supervisor of condition and action taken.
5. Increase gas monitoring activities (portable H<sub>2</sub>S detectors) and continue operations with caution.
6. Display the orange warning flag.

B. If the H<sub>2</sub>S concentration exceeds 20 ppm, the following steps will be taken:

1. Put on breathing equipment.



2. Display red flag.
  3. Driller - prepare to shut the well in.
    - a. Pick up pipe to get kelly out BOP's.
    - b. Close BOP's if necessary.
  4. If testing operations are in progress, the well will be shut-in.
  5. Help anyone who may be affected by gas.
  6. Evacuate quickly to the "SAFE BRIEFING AREA" if instructed or as conditions warrant.
- C. In the event a potentially hazardous volume of H<sub>2</sub>S is released to the atmosphere, the following steps must be taken to alert the public:
1. Remove all rig personnel from the danger area and assemble at a pre-determined safe area, preferably upwind from the wellsite.
  2. Alert the drilling office, public safety personnel, regulatory agencies, and the general public of the existence and location of an H<sub>2</sub>S release. See List of Emergency Telephone Numbers.
  3. Assign personnel to block any public road (and access road to location) at the boundary of the area of exposure. Any unauthorized people within the area should be informed that an emergency exists and be ordered to leave immediately.
  4. Request assistance from public safety personnel to control traffic and/or evacuate people from the threatened area.

VIII. Training Program. All personnel associated with the drilling operations will receive training to insure efficient and correct action in all situations. This training will be in the general areas of: (1) personnel safety, (2) rig operations, and (3) well control procedures.

- A. Personnel Safety Training. All personnel shall have received H<sub>2</sub>S training in the following areas:
1. Hazards and characteristics of H<sub>2</sub>S.
  2. Effect on metal components of the system.
  3. Safety precautions.
  4. Operation of safety equipment and life support systems.
  5. Corrective action and shutdown procedures.

B. Rig Operations. All rig personnel shall have received training in the following areas:

1. Well control procedures.
2. Layout and operations of the well control equipment.

NOTE: Proficiency will be developed through BOP drills which will be documented by the Drilling Superintendent.

C. Service Company Personnel. All service personnel shall have been trained by their employers in the hazards and characteristics of H<sub>2</sub>S and the operation of safety equipment and life support systems.

D. Visitors. All first time visitors to the location will be required to attend a safety orientation. The Drilling Superintendent shall be responsible for this orientation, and he shall see that every visitor is logged in correctly.

E. Public. The public within the area of exposure shall be given an advance briefing by the Drilling Superintendent or his Designate. This briefing must include the following elements:

1. Hazards and characteristics of hydrogen sulfide. It is an extremely dangerous gas. It is normally detectable by its "rotten-egg" odor, but odor is not a reliable means of detection because the sense of smell may be dulled or lost due to intake of the gas. It is colorless, transparent, and flammable. It is heavier than air and may accumulate in low places.
2. The necessity of an emergency action plan. Due to the danger to persons exposed to hydrogen sulfide and the need for expeditious action should an emergency occur, this action plan will be put into effect if and when a leak occurs.
3. The location of hydrogen sulfide within the area exposure i.e the drilling location.
4. The manner in which the public will be notified of an emergency whether by telephone or personal contact.
5. Steps to be taken in case of an emergency.
  - a. Abandon danger area.
  - b. Notify necessary agencies and request assistance for controlling traffic and evacuating people.

## EMERGENCY NOTIFICATION

If an emergency situation should arise, the Sheriff's Department and Navajo Tribal Police will be notified immediately so that they can assist in evacuating and sealing off the area.

Road Blocks will be established at all entrances to the location and no unauthorized personnel will be permitted to enter the area. Training sessions on (H2S) Safety will be conducted at the briefing area for everyone handling the emergency.

Special requirements need to be taken into consideration in order to protect the public.

Highway 262 and County Roads 402, 405, and 457 are within the 3 mile R.O.E. The Aneth Community is also within the 3-mile R.O.E. Within Aneth is the Pre-School, Chapter House, Thriftway Store, Navajo Housing Authority, and the U.N.D.C. Housing. The McElmo Creek Unit Injection Plant is also located within the R.O.E.

## EMERGENCY PHONE LIST

### A. MEDICAL PERSONNEL

1. Ambulance(s): Cortez, Colorado (Air) 303-565-3721  
Montezuma Creek, Utah 801-651-3229
2. Hospital(s): Cortez, Colorado 303-565-3743  
(Clinic) Montezuma Creek, Utah 801-651-3414

## B. FIREFIGHTING AND PUBLIC SAFETY PERSONNEL

1. Fire Department(s): Montezuma Creek, Utah (MCU) 801-651-3410
2. Police Department(s): Navajo Tribal Police 801-651-3208
3. County Sheriff: Monticello, Utah 801-587-2237

### C. GOVERNMENT AGENCIES

- |    |                                          |                     |
|----|------------------------------------------|---------------------|
| 1. | <u>BIA</u>                               | <u>505-368-4432</u> |
| 2. | <u>MMS (Farmington)</u>                  | <u>505-325-4572</u> |
| 3. | <u>AIR QUALITY</u>                       | <u>801-533-6108</u> |
| 4. | <u>WATER QUALITY</u>                     | <u>801-533-6146</u> |
| 5. | <u>NAVAJO TRIBAL COMPLIANCE OFFICERS</u> | <u>801-651-3208</u> |

#### D. PERSONNEL

1. Drilling Superintendents: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
2. Drilling Office: \_\_\_\_\_

3. Drilling Operations Superintendents: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Division Drilling Manager: \_\_\_\_\_  
\_\_\_\_\_

5. Drilling Engineer: \_\_\_\_\_  
\_\_\_\_\_

E. SERVICE COMPANIES

1. Pump Truck(s): Hay Hot Oil 801-651-3469  
\_\_\_\_\_

2. Dirt Contractor(s): \_\_\_\_\_  
\_\_\_\_\_

3. Roustabout Crew(s): \_\_\_\_\_  
\_\_\_\_\_

4. H2S Service Companies: Standby H2S Equipment Co.  
Clinton Dean, Cortez, Co. 303-565-8854  
\_\_\_\_\_  
\_\_\_\_\_

5. Others: \_\_\_\_\_  
\_\_\_\_\_

F. SUPERIOR OIL COMPANY

1. McElmo Creek Unit Injection Plant: 801-651-3267

2. Superior Oil Company: 303-565-3733

3. Production Department:

K. R. Johnson (Home) 303-565-3639

M. R. Carter (Home) 303-565-3135

- G. The following residents and/or responsible parties for occupied public areas within the area of exposure must be notified and instructed to leave the area when a potentially hazardous Hydrogen Sulfide leak occurs:

	TELEPHONE NO.	(A)	(B)
1. <u>Willie Dee</u>	<u>                    </u>	<u>1</u>	<u>          </u>
2. <u>Dick Whitehorse</u>	<u>                    </u>	<u>2</u>	<u>          </u>
3. <u>Billy Silas</u>	<u>                    </u>	<u>3</u>	<u>          </u>
4. <u>Frank Nakai</u>	<u>                    </u>	<u>4</u>	<u>          </u>
5. <u>Sam Capitan</u>	<u>                    </u>	<u>5</u>	<u>          </u>
6. <u>Melvin Capitan</u>	<u>                    </u>	<u>6</u>	<u>          </u>
7. <u>Paul Jones</u>	<u>                    </u>	<u>7</u>	<u>          </u>
8. <u>Joseph &amp; Virginia Wilson</u>	<u>                    </u>	<u>8</u>	<u>          </u>
9. <u>Dan Weston</u>	<u>                    </u>	<u>9</u>	<u>9A</u>
10. <u>Thomas &amp; Rosita Nakai</u>	<u>                    </u>	<u>10</u>	<u>          </u>
11. <u>Linda Begay</u>	<u>                    </u>	<u>11</u>	<u>          </u>
12. <u>Marion Yazzie</u>	<u>                    </u>	<u>12</u>	<u>          </u>
13. <u>Tommy Dee</u>	<u>                    </u>	<u>13</u>	<u>          </u>
14. <u>Suzy Myerson</u>	<u>                    </u>	<u>14</u>	<u>          </u>
15. <u>Hugh Lee</u>	<u>                    </u>	<u>15</u>	<u>          </u>
16. <u>Robert Billie</u>	<u>                    </u>	<u>16</u>	<u>          </u>
17. <u>Cyrus Begay</u>	<u>                    </u>	<u>17</u>	<u>          </u>
18. <u>Lee Ben Jones</u>	<u>                    </u>	<u>18</u>	<u>          </u>
19. <u>Elsie Blackgoat</u>	<u>                    </u>	<u>19</u>	<u>          </u>
20. <u>Jake Benally</u>	<u>                    </u>	<u>20</u>	<u>          </u>
21. <u>Tom Bedomi</u>	<u>                    </u>	<u>21</u>	<u>          </u>
22. <u>Joseph &amp; Sheila Merrit</u>	<u>                    </u>	<u>22</u>	<u>          </u>
23. <u>Joe &amp; Evelyn Merrit</u>	<u>                    </u>	<u>23</u>	<u>          </u>
24. <u>Rosina Merrit</u>	<u>                    </u>	<u>24</u>	<u>          </u>

		<u>TELEPHONE NO.</u>	<u>(A)</u>	<u>(B)</u>
25.	<u>Harrison Merrit</u>	<u>                    </u>	<u>25</u>	<u>          </u>
26.	<u>Big John</u>	<u>                    </u>	<u>26</u>	<u>          </u>
27.	<u>Emma Benally</u>	<u>                    </u>	<u>27</u>	<u>          </u>
28.	<u>Emma Begay</u>	<u>                    </u>	<u>28</u>	<u>          </u>
29.	<u>Kee Tapaha</u>	<u>                    </u>	<u>29</u>	<u>          </u>
30.	<u>Ora Sakizzie</u>	<u>                    </u>	<u>30</u>	<u>          </u>
31.	<u>Harry Todechene</u>	<u>                    </u>	<u>31</u>	<u>          </u>
32.	<u>Harold C. Benally</u>	<u>                    </u>	<u>32</u>	<u>          </u>
33.	<u>Big John Brother</u>	<u>                    </u>	<u>33</u>	<u>          </u>

ANETH COMMUNITY

NAVAJO HOUSING AUTHORITY

Benjamin and Louise Silas  
Marilyn Silas  
Wayne and Betty Nakai  
Benton and Mary Keith  
Dorothy Davis  
Earl and Evangeline Tanner  
Nelson and Elsie Rockwell  
Nellie Jackson  
Clarence Ben and Irene Atcitty  
Leroy and Jean O'Dale  
Ruby Silas  
Nelson Begay  
Mary Smiley  
Eddie and Mary Louise Jay  
Crystal and Pauline Rockwell  
Tom and Sarah Slowman  
Larry and Marilyn Robinson  
Calvin and Minnie Weston  
Marla Dee  
Roselyn Begay

U N D C HOUSING

Wesley and Lena Jones  
Kenneth and Bessie Roberts  
Elizabeth Nalgot  
Richard Phillips  
Milton and Sarah Hogue  
George and Mary Jean Phillips  
Wilbur and Ann Capitan  
Gary and Mary Rose Lee  
Francis and Stella Lee  
Sarah Hatathley  
Hayden Lansing  
Herman and Shirley Nakai  
Howard and Julia Toney  
David and Irene Filfred  
Herman and Loretta Mitchell  
Wilson and Lula Lee  
Helen Harvey

All residents living within R.O.E. do not have private phones. They must be contacted once the Contingency Plan is implemented. The Navajo Tribal Police shall help in notifying these residents of the potential hazards.





OPERATOR SUPERIOR OIL CO DATE 9-27-82

WELL NAME MC ELMO CREEK #I-22

SEC SENE 13 T 41S R 24E COUNTY SAN JUAN

43-037-30818  
API NUMBER

NAVAJO  
TYPE OF LEASE

POSTING CHECK OFF:

<input type="checkbox"/> INDEX	<input checked="" type="checkbox"/> HL	<input type="checkbox"/>
<input type="checkbox"/> NID	<input checked="" type="checkbox"/> PI	<input type="checkbox"/>
<input type="checkbox"/> MAP	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PROCESSING COMMENTS:

---

---

---

---

APPROVAL LETTER:

9-1-61

SPACING: ☒ A-3 MC ELMO CREEK ☐ c-3-a \_\_\_\_\_ CAUSE NO. & DATE  
UNIT

☐ c-3-b ☐ c-3-c

SPECIAL LANGUAGE:

---

---

---

---

---

---

☒ RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.

☒ AUTHENTICATE LEASE AND OPERATOR INFORMATION *NAVAJO*

☒ VERIFY ADEQUATE AND PROPER BONDING *NAVAJO*

☒ AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.

☒ APPLY SPACING CONSIDERATION

☐ ORDER *NO*

☐ UNIT *MC ELMO CREEK - 9-1-61*

☐ c-3-b

☐ c-3-c

☒ OUTSTANDING OR OVERDUE REPORTS FOR OTHER WELLS OF THE OPERATOR.

September 27, 1982

Superior Oil Company  
P. O. Drawer "G"  
Cortex, Colorado 81321

RE: Well No. McElmo Creek 1-22  
SENE Sec. 13, T.41S, R.24E  
San Juan County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to oil well is hereby granted in accordance with Section 40-6-11, Utah Code Annotated 1953; and predicated on Rule A-3, General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

RONALD J. FIRTH - Engineer  
Office: 533-5771  
Home: 571-6068

OR

CLEON B. FEIGHT - Director  
Office: 533-5771  
Home: 466-4455

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-037-30818.

Sincerely,

  
Norman C. Stout  
Administrative Assistant

NCS/as  
cc: Minerals Management Service (Farmington, N.M)  
Enclosure

**SUPERIOR** 

*Smithy*  
*Case*

OCT 17 1983

**DIVISION OF  
OIL, GAS & MINING**

October 13, 1983

State of Utah  
Department of Natural Resources  
Division of Oil, Gas & Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

RE: Distribution of Oil & Gas  
Lease Sale Notices

Gentlemen:

Please consider this letter as our official notice of address change, effective November 1, 1983 and our request that Superior Oil be maintained on your mailing list to receive notices regarding any forthcoming sales of oil and gas leases on lands administered by you.

We will appreciate your sending notices to the following address:

The Superior Oil Company  
600 17th Street  
Suite 1500  
Denver, Colorado 80202  
ATTN: Land Department

Thank you very much.

Very truly yours,

THE SUPERIOR OIL COMPANY

*Jed W. Lemmons/cbb*

Jed W. Lemmons  
Division Land Manager

JWL/cbb

The Superior Oil Company

Denver Division

1860 Lincoln St., Suite 800,  
Lincoln Tower Building, Denver, CO 80295  
(303) 863-2600, Twx: 910 931 2539



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Dr. G. A. (Jim) Shirazi, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

January 3, 1984

Superior Oil Company  
600 17th Street  
Suite 1500  
Denver, Colorado 80202

RE: Well No. McElmo Creek #I-22  
API #43-037-30818  
3304' FSL, 729' FEL SE/NE  
Sec. 13, T. 41S, R. 24E.  
San Juan County, Utah

Gentlemen:

Due to excessive time delay in commencing drilling operations, approval to drill the subject well is hereby rescinded effective one calendar month from the date of this notice.

A new Application for Permit to Drill must be filed with this office for approval, prior to future drilling of the subject location.

Respectfully,

Norman C. Stout  
Administrative Assistant

NCS/cj

*Superior*  
**Mobil Oil Corporation**

**RECEIVED**  
FEB 10 1986

031102  
P.O. BOX 5444  
DENVER, COLORADO 80217

**DIVISION OF  
OIL, GAS & MINING**

February 4, 1986

State of Utah  
Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center, Suite 35  
Salt Lake City, UT 84180

Attention: Ms. Arlene Solas

43-037-30818 LA  
✓  
WATER PERMIT  
McELMO CREEK UNIT I-22  
SENE SECTION 13-T41S-R24E  
SAN JUAN COUNTY, UTAH

Dear Ms. Solas:

Please find enclosed a copy of the water permit for McElmo Creek I-22. This permit has been verbally extended as we have not spudded the well to date.

In the future, we will make every effort to make sure that a copy of the Navajo Tribe permits are included in the APD.

Yours very truly,

*C. J. Benally*  
C. J. Benally

P. O. Drawer G  
Cortez, Co. 81321

CNEggerman/sea  
CNE/73

Enclosure

NAVAJO TRIBE  
DIVISION OF WATER RESOURCES  
DEPARTMENT OF WATER MANAGEMENT

WUP NO. 85-52

VALID FROM 9/17/85 TO 11/1/86

WATER USE PERMIT APPLICATION

REFERENCE: PLEASE READ WATER USE PERMIT APPLICATION INFORMATION SHEET BEFORE  
COMPLETING THIS APPLICATION.

APPLICANT (CLAIMANT): Mobil Oil Corp.

MAILING ADDRESS: P.O. DRAWER 6

Cortez, Colo. 81321

PHONE NO: (303) 565-3733 CONTACT PERSON Mr. Clyde Benally

CHAPTER North GRAZING DISTRICT \_\_\_\_\_ STATE Utah COUNTY San Juan

NE SE SW NW / NE 6E SW NW / NE SE SW NW / 12 T 4 S. / R 24 E.  
10 acre tract / 40 acre tract / 160 acre tract / section / township / range

UTM COORDINATES: X(east) \_\_\_\_\_ Y(north) \_\_\_\_\_ ZONE \_\_\_\_\_

WATERSHED NAME \_\_\_\_\_

HYDROLOGIC UNIT CODE \_\_\_\_\_

(attach 8 1/2 x 11 map showing water source location)

LAND STATUS: ( ) TRUST ( ) FEE ( ) LEASE ( ) ALLOTMENT ( ) OTHER \_\_\_\_\_

WATER SOURCE

NAME OR DESCRIPTION: Mc Elmo Ch. water source well just injection purposes  
(tribal well no., spring, reservoir name, river, lake, pond, wash, impoundment name)

from San Juan River alluvium west of North, Utah

WATER USE: ( ) MUNICIPAL ( ) DOMESTIC ( ) AGRICULTURE/LIVESTOCK ( ) RECREATIONAL  
( ) INDUSTRIAL/MINING ( ) OTHER Mc Elmo Ch. Ch. + Well #I-22

NUMBER/LIVESTOCK  
TYPE/LIVESTOCK \_\_\_\_\_

NUMBER/LIVESTOCK  
TYPE/LIVESTOCK \_\_\_\_\_

NUMBER/LIVESTOCK  
TYPE/LIVESTOCK \_\_\_\_\_

NUMBER/ACRES  
CROP \_\_\_\_\_

NUMBER/ACRES  
CROP \_\_\_\_\_

NUMBER/ACRES  
CROP \_\_\_\_\_

NUMBER/PEOPLE  
NUMBER/HOMES \_\_\_\_\_

IF INDUSTRIAL OR MINING-PLEASE ATTACH PLAN OF WATER USAGE

MAXIMUM USAGE: 300,000 gallons MAXIMUM TIME: \_\_\_\_\_

RATE OF USE: \_\_\_\_\_  
( ) gallons or ( ) acre-feet

PER YEAR DATE WATER USAGE BEGAN 10/2/85

METHOD OF WATER DELIVERY: Pumped into tanks  
(well, ditch, waterline, pump, dam, charco, truck, etc.)

PWSID NO. \_\_\_\_\_



PLAN FOR FUTURE DEVELOPMENT OF WATER USE OR USES \_\_\_\_\_

RETURN FLOW OR DISCHARGE

AMT OF WATER : \_\_\_\_\_

METHOD : \_\_\_\_\_

TREATMENT OF : \_\_\_\_\_

QUALITY: \_\_\_\_\_

TEMPERATURE : \_\_\_\_\_

NPDES  
PERMIT NUMBER : \_\_\_\_\_

APPLICANT AGREES, AS A CONDITION FOR THE PERMIT, TO ALLOW REASONABLE ENTRY UPON THEIR PREMISES BY NAVAJO TRIBAL EMPLOYEES ENGAGED IN THE ADMINISTRATION OF THIS PERMIT.

APPLICANTS SIGNATURE

*Clay F. Bawell*

DATE 10/7/85

\*\*\*\*\*  
APPLICATION RECEIVED: / / APPLICATION COMPLETE: / / INITIAL \_\_\_\_\_  
\$25.00 FILING FEE RECEIVED / /  
\*\*\*\*\*

C O N D I T I O N S

1. All drilling fluids, drill cuttings, chemicals etc. must be contained in such pits that do not allow seepage into and contaminate shallow alluvium or bedrock aquifers in the adjacent areas. If the mud pits are located in the non-cohesive soil or any permeable soil, the pits must be properly lined to avoid shallow groundwater contamination.
2. The mud pits must be constructed of such dimensions so that overflow should not occur. Also, no such fluid should be discharged either from mud line, or from well-head outside the pits.
3. All such mud pits must be fenced properly immediately after the completion of the drilling operation to avoid catastrophes such as drowning of humans or livestock in these pits.
4. All information on produced water from active oil and gas wells should be provided to Division of Water Resources and Environmental Protection Commission of the Navajo Tribe. The information should include the quantity of water produced, the quality of the water produced and the historic water quality of the adjacent shallow alluvium and shallow bedrock waters in the area. The produced water should be disposed of in such a way that no shallow ground water with up to 10,000 mg/liter total dissolved solids must not be contaminated. If such produced water is disposed off through evaporation pits, and the produced water quality is poorer than the shallow groundwater, in that case all such evaporation pits must be properly lined.

RECOMMENDATION: ( ) YES ( ) NO

*Michael O.*  
DIRECTOR/DEPARTMENT OF WATER MANAGEMENT

DATE 10/9/85

APPROVED BY: *Letty V. ...*

EXECUTIVE DIRECTOR/DIVISION OF WATER RESOURCES

DATE 10/9/85

REV:840824

DISC:WUPS DOC:wup